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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/501,068	08/19/2004	Mats Leijon	66352-033	3359

7590

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EXAMINER

WAKS, JOSEPH

ART UNIT

PAPER NUMBER

2834

DATE MAILED: 08/11/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/501,068

Applicant(s)

LEIJON ET AL.

Examiner

Joseph Waks

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 July 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-33 and 35-43 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-7, 9, 10, 12, 13 and 15-21 is/are rejected.
- 7) ☒ Claim(s) 8, 11 and 14 is/are objected to.
- 8) ☒ Claim(s) 22-33 and 38-43 are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 09 July 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>10/20/2004; 7/9/0</u> | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

1. Restriction to one of the following inventions is required under 35 U.S.C. 121:
 - I. Claims 1-21 and 35-37, drawn to the tide and wave motor structure, classified in class 290, subclass 53.
 - II. Claims 22-33 and 38-43, drawn to electrical power distribution systems and devices, classified in class 361, subclass 601.

The inventions are distinct, each from the other because of the following reasons:

2. Inventions I and II are related as combination and subcombination. Inventions in this relationship are distinct if it can be shown that (1) the combination as claimed does not require the particulars of the subcombination as claimed for patentability, and (2) that the subcombination has utility by itself or in other combinations (MPEP § 806.05(c)). In the instant case, the combination as claimed does not require the particulars of the subcombination as claimed because the wave power units may operate as a self contained systems not connected to the grid. The subcombination has separate utility such as switchgear stations interconnecting fossil or nuclear power generating plants.
3. Because these inventions are distinct for the reasons given above and the search required for Group I is not required for Group II, restriction for examination purposes as indicated is proper.
4. Claim(s) 1 and 35 link(s) inventions I and II. The restriction requirement between the linked inventions is subject to the nonallowance of the linking claim(s) 1 and 35.

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Upon the allowance of the linking claim(s), the restriction requirement as to the linked inventions shall be withdrawn and any claims depending from or otherwise including all the limitations of the allowable linking claims will be entitled to examination in the instant application. Applicant(s) are advised that if any such claim(s) depending from or including all the limitations of the allowable linking claim(s) is/are presented in a continuation or divisional application, the claims of the continuation or divisional application may be subject to provisional statutory and/or nonstatutory double patenting rejections over the claims of the instant application. Where a restriction requirement is withdrawn, the provisions of 35 U.S.C. 121 are no longer applicable. *In re Ziegler*, 44 F.2d 1211, 1215, 170 USPQ 129, 131-32 (CCPA 1971). See also MPEP § 804.01.

Priority

5. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Drawings

6. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the first gear mechanism as recited in claim 6 and the second gear mechanism as recited in claim 19, the free wheel as recited in claim 20, must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate

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prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

7. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

The following guidelines illustrate the preferred layout for the specification of a utility application. These guidelines are suggested for the applicant's use.

Arrangement of the Specification

As provided in 37 CFR 1.77(b), the specification of a utility application should include the following sections in order. Each of the lettered items should appear in upper case, without underlining or bold type, as a section heading. If no text follows the section heading, the phrase "Not Applicable" should follow the section heading:

- (a) TITLE OF THE INVENTION.
- (b) CROSS-REFERENCE TO RELATED APPLICATIONS.
- (c) STATEMENT REGARDING FEDERALLY SPONSORED RESEARCH OR DEVELOPMENT.
- (d) THE NAMES OF THE PARTIES TO A JOINT RESEARCH AGREEMENT
- (e) INCORPORATION-BY-REFERENCE OF MATERIAL SUBMITTED ON A COMPACT DISC (See 37 CFR 1.52(e)(5) and MPEP 608.05. Computer program listings (37 CFR 1.96(c)), "Sequence Listings" (37 CFR 1.821(c)), and tables having more than 50 pages of text are permitted to be submitted on compact discs.) or
REFERENCE TO A "MICROFICHE APPENDIX" (See MPEP § 608.05(a). "Microfiche Appendices" were accepted by the Office until March 1, 2001.)
- (f) BACKGROUND OF THE INVENTION.
 - (1) Field of the Invention.
 - (2) Description of Related Art including information disclosed under 37 CFR 1.97 and 1.98.
- (g) BRIEF SUMMARY OF THE INVENTION.
- (h) BRIEF DESCRIPTION OF THE SEVERAL VIEWS OF THE DRAWING(S).
- (i) DETAILED DESCRIPTION OF THE INVENTION.
- (j) CLAIM OR CLAIMS (commencing on a separate sheet).
- (k) ABSTRACT OF THE DISCLOSURE (commencing on a separate sheet).
- (l) SEQUENCE LISTING (See MPEP § 2424 and 37 CFR 1.821-1.825. A "Sequence Listing" is required on paper if the application discloses a nucleotide or amino acid sequence as defined in 37 CFR 1.821(a) and if the required "Sequence Listing" is not submitted as an electronic document on compact disc).

Content of Specification

- (a) Title of the Invention: See 37 CFR 1.72(a) and MPEP § 606. The title of the invention should be placed at the top of the first page of the specification unless the title is provided in an application data sheet. The title of the invention should be brief but technically accurate and descriptive, preferably from two to seven words may not contain more than 500 characters.

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- (b) Cross-References to Related Applications: See 37 CFR 1.78 and MPEP § 201.11.
- (c) Statement Regarding Federally Sponsored Research and Development: See MPEP § 310.
- (d) The Names Of The Parties To A Joint Research Agreement: See 37 CFR 1.71(g).
- (e) Incorporation-By-Reference Of Material Submitted On a Compact Disc: The specification is required to include an incorporation-by-reference of electronic documents that are to become part of the permanent United States Patent and Trademark Office records in the file of a patent application. See 37 CFR 1.52(e) and MPEP § 608.05. Computer program listings (37 CFR 1.96(c)), "Sequence Listings" (37 CFR 1.821(c)), and tables having more than 50 pages of text were permitted as electronic documents on compact discs beginning on September 8, 2000.

Or alternatively, Reference to a "Microfiche Appendix": See MPEP § 608.05(a). "Microfiche Appendices" were accepted by the Office until March 1, 2001.

- (f) Background of the Invention: See MPEP § 608.01(c). The specification should set forth the Background of the Invention in two parts:
 - (1) Field of the Invention: A statement of the field of art to which the invention pertains. This statement may include a paraphrasing of the applicable U.S. patent classification definitions of the subject matter of the claimed invention. This item may also be titled "Technical Field."
 - (2) Description of the Related Art including information disclosed under 37 CFR 1.97 and 37 CFR 1.98: A description of the related art known to the applicant and including, if applicable, references to specific related art and problems involved in the prior art which are solved by the applicant's invention. This item may also be titled "Background Art."
- (g) Brief Summary of the Invention: See MPEP § 608.01(d). A brief summary or general statement of the invention as set forth in 37 CFR 1.73. The summary is separate and distinct from the abstract and is directed toward the invention rather than the disclosure as a whole. The summary may point out the advantages of the invention or how it solves problems previously existent in the prior art (and preferably indicated in the

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Background of the Invention). In chemical cases it should point out in general terms the utility of the invention. If possible, the nature and gist of the invention or the inventive concept should be set forth. Objects of the invention should be treated briefly and only to the extent that they contribute to an understanding of the invention.

- (h) Brief Description of the Several Views of the Drawing(s): See MPEP § 608.01(f). A reference to and brief description of the drawing(s) as set forth in 37 CFR 1.74.
- (i) Detailed Description of the Invention: See MPEP § 608.01(g). A description of the preferred embodiment(s) of the invention as required in 37 CFR 1.71. The description should be as short and specific as is necessary to describe the invention adequately and accurately. Where elements or groups of elements, compounds, and processes, which are conventional and generally widely known in the field of the invention described and their exact nature or type is not necessary for an understanding and use of the invention by a person skilled in the art, they should not be described in detail. However, where particularly complicated subject matter is involved or where the elements, compounds, or processes may not be commonly or widely known in the field, the specification should refer to another patent or readily available publication which adequately describes the subject matter.
- (j) Claim or Claims: See 37 CFR 1.75 and MPEP § 608.01(m). The claim or claims must commence on separate sheet or electronic page (37 CFR 1.52(b)(3)). Where a claim sets forth a plurality of elements or steps, each element or step of the claim should be separated by a line indentation. There may be plural indentations to further segregate subcombinations or related steps. See 37 CFR 1.75 and MPEP § 608.01(i)-(p).
- (k) Abstract of the Disclosure: See MPEP § 608.01(f). A brief narrative of the disclosure as a whole in a single paragraph of 150 words or less commencing on a separate sheet following the claims. In an international application which has entered the national stage (37 CFR 1.491(b)), the applicant need not submit an abstract commencing on a separate sheet if an abstract was published with the international application under PCT Article 21. The abstract that appears on the cover page of the pamphlet published by the International Bureau (IB) of the World Intellectual Property Organization (WIPO) is the abstract that will be used by the USPTO. See MPEP § 1893.03(e).
- (l) Sequence Listing. See 37 CFR 1.821-1.825 and MPEP §§ 2421-2431. The requirement for a sequence listing applies to all sequences disclosed

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in a given application, whether the sequences are claimed or not. See MPEP § 2421.02.

8. The disclosure is objected to because of the following informalities: It seems that page 1 of the disclosure is missing, and in numerous cases the description refers back to the claims.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

9. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

10. Claim 19 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. Neither specification nor drawings support the feature of the second gear mechanism affecting a gear ratio of the vertical movement of the floating body.

Claim Rejections - 35 USC § 102

11. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

12. Claims 1-3, 5, 7, 10, 12, 13, 16, 18 and 35-37 are rejected under 35 U.S.C. 102(b) as being anticipated by Evans et al. (US 4,208,877).

Evans et al. disclose invention as claimed: a wave-power unit for the production of electric power comprising a floating body 10 and a plurality of rotating electric generators 24 mechanically connected to the floating body by mechanical movement transmitting means 11, wherein the transmitting means is arranged for transmission of vertical movements of the floating body to rotary movements of the generator rotor wherein the rotor is connected to a turning body 12, 21, 22 and 23 connected to the movement transmitting means, and the movement transmitting means is secured by its upper end to the floating body and by its lower end to the turning body, and the lower part of the movement transmitting means includes a component being rolled up on drum 12, the stator and the rotor of the generator 24 enclosed in the housing anchored in the sea/lake bed, the turning body being located outside the generator housing 24, the turning body and the rotor being arranged on common horizontal shaft 12, spring means 28, the base plate (see Figure 4, not numbered).

The generator rotor and stator (not shown) are inherent to the generator activated by the hydraulic motor that rotates the rotor for generating the electric current.

The generator unit 24 housing is shown in Figures 1a, 4 or 4b to be anchored to the sea bottom by moors 16 or structure 48.

The adjustable length of the movement transmitting means is inherent to the disclosed structure that includes the tension spring 28.

Re claims 35-37, Evans et al. disclose the wave power unit as claimed. Claims 35-37 that merely recite connecting and using the disclosed features together are inherent to the disclosed structure.

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13. Claims 1, 6, 7, 10, 13, 18, 20 and 35-37 are rejected under 35 U.S.C. 102(b) as being anticipated by Navarro (US 4,228,360).

Navarro discloses invention as claimed: a wave-power unit for the production of electric power comprising a floating body 6 and rotating electric generator 60 mechanically connected to the floating body by mechanical movement transmitting means 8, wherein the transmitting means is arranged for transmission of vertical movements of the floating body to rotary movements of the generator rotor wherein the rotor is connected to a turning body 12 connected to the movement transmitting means, and the movement transmitting means is secured by its upper end to the floating body and by its lower end to the turning body, and the lower part of the movement transmitting means includes a component being rolled up on drum 12, a first gear 42, the turning body and the rotor being arranged on common horizontal shaft 53, spring means 14 and 24, a second gear or free wheel 18.

The adjustable length of the movement transmitting means is inherent to the disclosed structure that includes the tension spring 14.

Re claims 35-37, Navarro discloses the wave power unit as claimed. Claims 35-37 that merely recite connecting and using the disclosed features together are inherent to the disclosed structure.

Claim Rejections - 35 USC § 103

14. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

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invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

15. Claims 4 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Evans et al. (US 4,208,877) in view of Fisher (US 4,900,965).

Evans et al. disclose the wave power unit essentially as claimed. However, Evans et al. do not disclose the rotor being situated on the outside of the stator.

Fisher discloses a lightweight, high power generator having a rotor 33, 30 external to the stator 82.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to design the unit as taught by Evans et al. and to provide the rotor situated on the outside of the stator as taught by Fisher for the purpose of achieving a lightweight, high power generator structure with a high power to weight ratio.

16. Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Evans et al. (US 4,208,877) in view of Nielsen (US 5,435,134).

Evans et al. disclose the wave power unit essentially as claimed. However, Evans et al. do not disclose the housing being primarily made of concrete.

Nielsen discloses a concrete housing 1 enclosing generator 9 and ancillary equipment located at sea bottom.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to design the unit as taught by Evans et al. and to provide the concrete housing as taught by Nielsen for the purpose of protecting and anchoring generator equipment at sea or lake bottom. It would be further obvious to use the concrete as the major component of the housing as ready available material providing

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required strength and weight to the structure, since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. *In re Leshin*, 125 USPQ 416.

17. Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over Evans et al. (US 4,208,877) in view of Kelly (US 6,864,592).

Evans et al. disclose the wave power unit essentially as claimed. However, Evans et al. do not disclose the stator winding connected to a rectifier.

Kelly discloses in Figure 5 the generator windings 26, 27 connected to a rectifier 28 for the purpose of converting the generated AC current to a DC current for storing in the storage means 30.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to design the unit as taught by Evans et al. and to connect the stator winding to a rectifier as taught by Kelly for the purpose of converting the generated AC current to a DC current for storing in the storage means.

18. Claim 21 is rejected under 35 U.S.C. 103(a) as being unpatentable over Evans et al. (US 4,208,877) in view of Kliman et al. (US 6,278,217) and Elton et al. (US 5,036,165).

Evans et al. disclose the wave power unit essentially as claimed. However, Evans et al. do not disclose the stator winding consisting of a cable including a current conductor, a first semi-conducting layer surrounding the conductor, an insulating layer of solid insulation surrounding the first semi-conducting layer, and a second semi-conducting layer surrounding the insulating layer.

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Kliman et al. disclose a high voltage generator 10 having stator windings consisting of a high voltage cable 22 for the purpose of avoiding step-up transformers between the high voltage system and the generator.

Elton et al. disclose a cable for high voltage apparatuses such as dynamoelectric machines (Re column 1, lines 25-27), including a current conductor 102, a first semi-conducting layer 104 surrounding the conductor, an insulating layer 106 of solid insulation surrounding the first semi-conducting layer, and a second semi-conducting layer 110 surrounding the insulating layer for the purpose of avoiding corona discharge.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to design the unit as taught by Evans et al. and to provide the cable as taught by Kliman et al. for the purpose of avoiding step-up transformers between the high voltage system and the generator. It would be further obvious to provide the combined wave power unit with a cable having a current conductor, a first semi-conducting layer surrounding the conductor, an insulating layer of solid insulation surrounding the first semi-conducting layer, and a second semi-conducting layer surrounding the insulating layer as taught by Elton et al. for the purpose of avoiding corona discharge.

Double Patenting

19. Claim 9 is objected to under 37 CFR 1.75 as being a substantial duplicate of claim 4. When two claims in an application are duplicates or else are so close in content that they both cover the same thing, despite a slight difference in wording, it is

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proper after allowing one claim to object to the other as being a substantial duplicate of the allowed claim. See MPEP § 706.03(k).

Allowable Subject Matter

20. Claims 8, 11 and 14 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Re claim 8, the feature of the rotor having diameter larger than the diameter of the turning body, in combination with the other limitations present, are neither disclosed nor taught by the prior art of record.

Re claim 11, the feature of the adjustable spring rate, in combination with the other limitations present, are neither disclosed nor taught by the prior art of record.

Re claim 14, the feature of the housing filled with liquid, in combination with the other limitations present, are neither disclosed nor taught by the prior art of record.

Prior Art

21. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joseph Waks whose telephone number is (571) 272-2037. The examiner can normally be reached on Monday through Thursday 8 am to 5 pm.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Darren E. Schuberg can be reached on (571) 272-2044. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

A handwritten signature in black ink, appearing to read 'J. Waks', is positioned to the left of the printed name.

Joseph Waks
Primary Examiner
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8/10/05